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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Jane MacCutcheon
Serial No. 09/921,540
Filed: 08/03/2001
For: **MUSIC LEARNING AND PLAYING SYSTEM AND METHOD**

Examiner: Kimberly R. Lockett
Art Unit: 2837

OFFICIAL

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Commissioner for Patents
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Sir:

RESPONSE TO THE FINAL OFFICE ACTION MAILED NOVEMBER 26, 2003

In response to the Final Office Action mailed November 26, 2003, Applicant offers the following remarks. If any fees are required in association with this response, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

REMARKS

Applicant has carefully studied the Office Action of November 26, 2003 and offers the following remarks in response thereto. Initially, Applicant appreciates the telephonic interview with the Examiner on November 18, 2003, which resulted in the new Office Action addressing the points raised in the interview regarding anticipation and a full analysis of the pending claims.

Claims 121-134, 138-140, 143, 145-155 and 165-176 were rejected under 35 U.S.C. § 103 as being unpatentable over Hale in view of Choong and Hoffman. Applicant respectfully traverses. For the Patent Office to establish *prima facie* obviousness, the Patent Office must show where each and every element of the claim is located in the combination of references. MPEP § 2143.03. If the Patent Office cannot do this, Applicant is entitled to a patent. Further, when combining references, the Patent Office must provide objective evidence as to the motivation to combine the references. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). If the combination of the references must be further modified to show the claimed invention, the Patent Office is required to present further objective evidence as to where the motivation to modify the references can be found. *Ibid.* In the absence of the requisite objective evidence, the Patent Office has not established *prima facie* obviousness and the claims are allowable. Applicant further notes that the MPEP instructs the Patent Office that a modification to a reference that makes the reference unsuitable for its intended purpose is an improper modification. MPEP § 2143.01.

Initially, Applicant notes that claim 121 is not pending at this time (having been canceled by the amendment of June 17, 2003) and a rejection thereof is moot.

Claim 122 recites "associating a color with the musical note, the color having a name, the name alliterating with the note name . . . ." Applicant specifically argued this claim element during the telephonic interview of November 18, 2003. At that time, the Patent Office admitted that Hale alone did not show the alliteration and agreed to withdraw the anticipation rejection of the claim. In the wake of the interview, after performing a new search with this element in mind, and locating new references, the Patent Office still has to admit that Hale, Choong, and Hoffman, in combination, do not teach or suggest this feature (see page Office Action of November 26, 2003, page 3, lines 1-2 and 11-12). The Patent Office indicates that it would have been obvious to modify the alliteration technique *as taught by the applicant*, since the references disclose the use of colored music association, colored indicia, and pitch identifiers, and since it has been held

that where the general conditions of a claim are disclosed in the prior art, discovering the optimum workable ranges involves only routine skill in the art, with a citation to *In re Aller*, 105 USPQ 233. Applicant respectfully traverses this statement.

In general, the Patent Office is allowed to opine that it would be obvious to modify result-effective variables. MPEP § 2144.05. However, where the references do not recognize that a variable achieves a specific desired result, there can be no suggestion for optimization thereof. *Ibid.* For example, in *Aller*, the variables in question were temperature and concentration of sulphuric acid, which had been recognized as result-effective variables. In contrast, the references of record in this case do not recognize that alliteration of the note name with the color name is a result-effective variable. The failure of the references to make this connection can be seen in the fact that Hale does try to create alliteration between the note name and the noun name for the symbols, but not for the note name and the color name. See Hale, col. 6, lines 60-63. Had Hale recognized that the color name was a result-effective variable, Hale would have commented on the possibilities of extending alliteration. However, since Hale did not make the connection, there was clearly no recognition by Hale (or the other references) that the color name was a result-effective variable. Since the references do not recognize that the color name-note name alliteration is a result-effective variable, the Patent Office cannot rely on the principle of optimization of a variable to establish the requisite evidence of a suggestion to modify the references. Since the Patent Office cannot rely on the principle of optimization of result-effective variables to establish the evidence of a rationale to modify the references, the Patent Office has not presented the requisite objective evidence required to modify the references. Without the motivation to modify the references, the unmodified references do not teach or suggest a claim element, the Patent Office has not established *prima facie* obviousness. Since the Patent Office has not established *prima facie* obviousness, claim 122 is patentable over the rejection of record.

Claims 123-134 and 138-140 depend from claim 122 and are patentable at least for the same reasons. Applicant requests reconsideration of the rejection of claims 122-134 and 138-140 and claim allowance. However, several of these claims deserve special mention.

Claim 125 recites a pitch mark positioned on either a left side or a right side of the musical note denoting an octave group within which the musical note can be found. The Patent Office admits that Hale does not show pitch marks. The Patent Office opines that Choong

discloses the use of a music-teaching device with a musical scale that provides pitch markings proximate a side of the musical note and a note selection system. Applicant respectfully traverses on several grounds. First, the Patent Office does not provide a specific citation to what element within Choong is deemed to be the claimed pitch marking. Applicant has read the reference and observes that the notes C, D, E, F, G, A, and B are located on second disc D2 (see Choong, Figs. 1 and 3 and col. 3, lines 7-18) with sharps and flats positioned between the notes. However, Applicant's reading of the reference and the drawings does not show any element which could reasonably be construed to be a pitch marking to the left or right of the notes in the disc D2. Certainly there are no markings to the left or right of the notes that denotes an octave group within which the musical note can be found. Other discs do include indicia as to whether a note is included in a given chord, but this is not the same as a denotation that a note can be found in a particular octave group, nor is this a pitch marking. If the Patent Office disagrees, Applicant requests that the Patent Office clarify with particularity (such as by a column, line and/or element # citation) what element within Choong is deemed to be the claimed pitch marking. Absent such a showing, the reference does not show a pitch marking, and the combination of references does not show the element. Since the combination of references does not show the element, the Patent Office has not established *prima facie* obviousness, and the claim is allowable over the rejection of record.

Before the Patent Office can address the sufficiency of Choong with respect to whether Choong teaches the recited pitch markings, the Patent Office must also address the combination of Choong with Hale. Specifically, the Patent Office, when making a combination, must articulate a reason as to why a combination of references is suggested. Further, this reason must be supported by objective evidence. The Patent Office has not, in the Office Action, articulated any reason why it would be obvious to combine the references. Since there is no reason to combine the references, it is not obvious to combine the references. Since there is no reason to combine the references, the references must be evaluated individually. As admitted by the Patent Office, the references individually do not show certain claim elements, and thus cannot individually render the claim obvious. Since the references individually do not render the claim obvious, the claim is allowable over the rejection of record.

Even if the Patent Office were able to articulate a reason why the references should be combined, the Patent Office would also be required to show objective evidence as to why the

references should be combined. As the Patent Office has not done so, the rejection is improper. If the Patent Office would like to provide a reason why the references should be combined and show objective evidence to support this reason, this would constitute a new argument, and any communication articulating such a new argument should allow Applicant to respond without the expense of a Request for Continued Examination or extension of time petitions.

Applicant further notes that combining Choong with Hale and/or Hoffman renders Choong unsuitable for its intended purpose. Specifically, Choong is designed to teach chords through the use of the spinning discs. If the discs are disassembled and markings therefrom are used in Hale's system, Choong is no longer capable of illustrating the chords in the intended manner. Since modifying a reference such that it is unsuitable for its intended purpose is evidence of non-obviousness, the rejection is improper and should be withdrawn.

Claims 126-128 depend from claim 125 and are patentable for the same reasons that claim 125 is patentable. Claim 128 deserves special mention in that it recites that the pitch marks are vertical dashes. The Patent Office effectively admits that the vertical dashes are not shown by the references, and thus has not established *prima facie* obviousness for this element. The Patent Office asserts that the use of a vertical dash is optimization, but similar to the argument presented above, the Patent Office has not provided any evidence that this is a result-effective variable that is suitable for optimization. In the absence of such evidence, the distinction is a patentable distinction, and the failure of the Patent Office to show the element precludes a finding that the claim is obvious.

Claim 129 also deserves special mention. Claim 129 recites associating the musical note with an accidental and presenting the note with the accidental. The Patent Office admits that Hale and Choong do not show the accidentals (see page 3, lines 1-2) and points to Hoffman to show the accidentals. Again, the Patent Office has not articulated any reason why it would be obvious to combine Hale and Hoffman or Hale, Choong, and Hoffman, much less advanced any objective evidence to support the combination. Since the Patent Office has not met its burden to support the combination, the combination is improper, and the references must be considered individually. Since the references have to be considered individually, and the Patent Office admits that the references individually do not show all the claim elements, the Patent Office has not established *prima facie* obviousness, and the claim is allowable. Claim 134 depends from claim 129 and is patentable at least for the same reasons. Further, none of the references show

coloring the accidental as recited in the claim. This provides an independent reason why the claim is patentable over the rejection.

Claim 133 also deserves special mention. Claim 133 recites that the structural elements of the musical score are colored according to a compositional color that alliterates with the named musical note. While the Patent Office opines that Hale shows staves and scores, there is nothing in the rejection that identifies where in any of the references there is a teaching or suggestion to color the structural elements, much less color the structural elements in a color whose name alliterates with the named musical note of the compositional key. Since the Patent Office has failed to articulate where in the combination of references an element is taught or suggested, the Patent Office has failed to establish *prima facie* obviousness, and the claim is allowable.

Claims 138-140 also deserves special mention. Claim 138 recites presenting a note formation technique for forming a musical note on a musical instrument. Claim 139 recites that presenting the note formation technique comprises associating the color of the musical note with a plurality of note formation identifiers. Claim 140, like claim 139, depends from claim 138 and includes claim 138's elements. The Patent Office asserts that Hoffman discloses a note formation technique for forming the musical note on a musical instrument with a plurality of formation identifiers and points to Figure 2 of Hoffman without further explanation. Applicant respectfully traverses. Note formation techniques and note formation identifiers are described in the specification with respect to Figures 7 and 8. While limitations of the specification are not imported into the claims, no one of ordinary skill in the art would construe the individual pictures shown on each key of Hoffman's Figure 2 with Applicant's recited note formation technique, and especially not a note formation technique that has a plurality of note formation identifiers. Further, nothing in Figure 2 indicates that a single note on the piano may be formed from multiple keys, and as such, there is no associating the color of the musical note with a plurality of note formation identifiers. Since the Patent Office has failed to identify where in the references the note formation identifiers can be found, the Patent Office has not established *prima facie* obviousness, and the claims are allowable.

Claim 143 recites means for presenting a musical note having an associated color, the color having a name and the name alliterating with the note name. For the reasons explained

above with respect to claim 122, the rejection fails to show the recited alliteration. Thus, the rejection of this claim is improper.

Claims 145-155 depend from claim 143 and are patentable at least for the same reasons. Claim 147 recites the accidental being colored as the note is colored. As explained above, the references do not teach or suggest coloring the accidentals. Thus, this claim is not obvious.

Claim 148 recites the pitch mark. As explained above, the references do not teach or suggest using the recited pitch marks. Thus, this claim is not obvious.

Claim 149 recites that the pitch marks are vertical dashes. As explained above, the references do not teach or suggest using the recited vertical dash pitch marks. Thus, this claim is not obvious.

Claim 154 recites coloring the structural components of the musical score with a color whose name alliterates with the compositional key of the composition. As explained above, the references do not teach or suggest coloring the structural components, much less coloring them in a manner that alliterates with the compositional key of the composition. Thus, this claim is not obvious.

Claim 165 recites coloring the structural components with a color whose name alliterates with the compositional key of the musical composition. As explained above, the references do not teach or suggest coloring the structural components, much less coloring them in a manner that alliterates with the compositional key of the composition. Thus, this claim is not obvious. Claims 166 and 167 depend from claim 165 and are patentable at least for the same reasons.

Claim 168 recites coloring the accidentals in the key signatures. The Patent Office never addresses this element specifically. This failure to identify the specific element reflects the Patent Office's failure to establish *prima facie* obviousness with respect to this element. While the Patent Office does indicate that Hoffman teaches accidentals, nothing in Hoffman teaches coloring the accidentals, much less coloring the accidentals in the key signatures or coloring the accidentals in the key signatures with a color whose name alliterates with the note name for a note associated with the accidental. Since the references do not show any of these elements, the Patent Office has not established *prima facie* obviousness for this claim, and the claim is allowable.

Claims 169-171 depend from claim 168 and are patentable at least for the same reasons. Claim 171 deserves special mention as reciting the specific colors used by the present invention.

The Patent Office opines that particular colors are optimization, but to the extent that the colors allow for the specifically claimed alliteration, and no other reference teaches or suggests the claimed alliteration, these particular colors represent a particularly advantageous color grouping over the references of record.

Claim 172 recites colored notes with pitch marks. As explained above, the references of record, and especially Choong, do not teach or suggest the claimed pitch marks. Since the references do not teach or suggest the claimed pitch marks, the references do not establish *prima facie* obviousness, and the claim is allowable. Claims 173-176 depend from claim 172 and are allowable at least for the same reasons.

Claims 141, 142, and 156-158 were rejected under 35 U.S.C. § 103 as being unpatentable over Hale in view of Choong, Hoffman, and Graham. Applicant respectfully traverses. Initially, Applicant notes that the Patent Office merely opines that the motivation to modify the device to combine the references is to provide an improved musical training device. The Patent Office has not provided the requisite objective evidence to support this assertion, and thus, the combination is improper. Even if the Patent Office had provided evidence that a generalized desire to provide an improved musical training device was desirable, such a generalized suggestion does not equate to the specific combination at issue. Specifically, there is no teaching or suggestion as to why this sort of combination would satisfy a desire to make an improved musical training device. It is clear that the Patent Office is selecting the references using Applicant's disclosure as a template. Such reference selection amounts to impermissible hindsight reconstruction and is improper.

Even if the combination is proper, nothing in Graham corrects the underlying deficiencies of the combination of Hale, Choong, and Hoffman. Specifically, nothing in Hale, Choong, Hoffman, and Graham shows the claimed alliteration. Thus, the Patent Office has not established *prima facie* obviousness for the claims, and the claims are patentable over the rejection of record.

Claims 141, 142, and 156 deserve special mention in that the note formation elements are colored. The Patent Office opines that the color matches an actuator and points to Graham, Figure 3. Applicant notes that Graham's actuators are not colored, but the space on the neck under the strings between the frets is lit via an electroluminescent display panel (see col. 4, lines 6-55). Even if the space under the strings constitutes an actuator (a position Applicant does not

concede), merely being lit does not correspond to matching a color to an actuator as recited in the claims. To this extent, Graham does not teach or suggest the claim element for which it is cited, and the Patent Office has not established *prima facie* obviousness.

Claims 135-137 and 144 were rejected under 35 U.S.C. § 103 as being unpatentable over Hale, Choong, Hoffman, and further in view of Bennett. Applicant respectfully traverses. Initially, Applicant notes that the Patent Office merely opines that the motivation to modify the device to combine the references is to provide an improved musical training device in which the identifiers can be interchanged. The Patent Office has not provided the requisite objective evidence to support this assertion, and thus, the combination is improper. Even if the Patent Office had provided evidence that a generalized desire to provide an improved musical training device in which the identifiers can be interchanged was desirable, such a generalized suggestion does not equate to the specific combination at issue. Specifically, there is no teaching or suggestion as to why this sort of combination would satisfy a desire to make an improved musical training device in which the identifiers can be interchanged. It is clear that the Patent Office is selecting the references using Applicant's disclosure as a template. Such reference selection amounts to impermissible hindsight reconstruction and is improper.

Even if the combination is proper, nothing in Bennett corrects the underlying deficiencies of the combination of Hale, Choong, and Hoffman. Specifically, nothing in Hale, Choong, Hoffman, and Bennett shows the claimed alliteration. Thus, the Patent Office has not established *prima facie* obviousness for the claims, and the claims are patentable over the rejection of record.

Applicant appreciates the indication that claims 159-164 are allowable, but feels that all the claims 122-176 are allowable, and the references of record do not require settling for just these claims.

Applicant requests reconsideration of the rejections in light of the arguments presented herein. Specifically, the Patent Office has not shown where certain claim elements are or shown why the references would be combined. Since the references admittedly do not have claim elements and there is no evidence to modify the references, the Patent Office has not established *prima facie* obviousness. Applicant earnestly solicits claim allowance at the Examiner's earliest convenience.

Respectfully submitted,

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